Work Ordo March-28-13 12		167		*991	67*						Page	1
Item ID: Revision ID:	D3884-2			Accept	*N900	040	100)* s	Setup Star	IVI	S1*	*-
Item Name:	Saddle, Inboar	rd RH							Sto	^p *N	S2*	
Start Date:	3/21/13	Start Qty: 8.00	*8*		Cust Item I	D:						
Required Date:	3/27/13	Req'd Qty: 8.00	*8*		Customer:					•		
Reference:		•										
Approvals:	Process Pla	in: MC5	Date: 13-03-2	& Tooling:	Da	ate:	_	F	Run Sta	" I V	R1*	
	QC:		Date:		Da	ate:			Sto	*N	R2*	
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp	
Draw Nbr	Rev	ision Nbr									-	
D3884	В											
100				0.00								
100 HAAS 1 HAAS CNC vertical	l machine #1	HAAS CNC VERTICAI Memo Program Ba	tch No. 99167	0.00	<i>\$</i> 13-	04-14		8	<u>Ø</u>			
		I-Machine Sheets 2-Machine Sheets	Step No 2 per Folio FA81	9 and inspect per attached 9 and inspect per attached 9 and inspect per Dimension	Dimension							٠
110		QC2- Inspect parts off n	nachine FAI/FAIB	0.00					-			
110 QC Quality Control		Memo		0.00	SS 13-04-1	16		8	Ø	•	. .	

NCR:	Yes	1	No
INCN.	162	/	INO

NCR: \	/es	/ No					WORK ORDER NON-C	O	NFORN	//ANCE / UP	DATE			
					,							QA Closed:	Date:	
Vork Orde	er:						DISPOSITION				AGAINST DE	PARTMENT/		,
Part N	۱o.						Rework Scrap		ſ	Skid-tube Machining	Crosstube Small Fab	4	Water Jet I. Eng. Coor. e/Packaging	Engineering Quality Other
NCR N	۱o. ِ						Use-as-is Work Order Update			oforming Large Fab	Finishing Composite	Rec/stor	Supplier	Other
Root					Des	crip	otion of work order update	1	nitial	Ac	tion	Sign &		
Cause		Date	Step	Qty		o	r Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	QC Inspector
oc/Data														
uip/Tooling														
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etup														
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napproved					<u> </u>			L						
		*						AUL	T CATE	GORY				
Landi	ng (iear					General		1			.	_	7_ /_ /
		Bending					Bend	_	Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	O/S		BOM/Route	<u> </u>	Hardwa			Over/Under		Temperature/Cure
	igsqcup	Cracks					Broken/Damaged		1	on Incomplete	_	Part Incorred	 -	Weld
	Ш	Crushed/0	Crimped.				Burrs	<u> </u>	ł	ions Incomplete/	Unclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	L	Cuffs					Contamination	_	Mainte		ļ	Part Moved		
		Heat Trea	t				Countersink	<u></u>	Mislabe		<u> </u>	Positioned V	_	7
		Inspection	•	Tube	•		Cut Too Short	<u></u>	Misread	i	<u>. </u>	Power Loss/	Surge	Other
		Ripples in					Drill Holes	<u></u>	Offset					
		Torque W			n		Drawing	_	4	Calibration				
		Turning S	equence			L	Finish		4	Sequence				
		Wave/Tw	ist in Tub	oe -			Folio		Outside	Dimensions				*

DQA: ____ Date:

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 99167 *99167* Page 2 March-28-13 12:55:29 PM D3884-2 Accept Item ID: *N900040100* Setup Start **Revision ID:** Item Name: Saddle, Inboard RH **Start Date:** 3/21/13 Start Oty: 8.00 **Cust Item ID:** Req'd Qty: 8.00 Required Date: 3/27/13 **Customer:** Reference: Run Start **Tooling:** Approvals: Process Plan: Date: Date: Stop SPC (Y/N): OC: Date: Date: Accept Sequence ID/ Tool ID Tool # Plan Reject Reject Insp. Operation Set Up/ Qty Number Code **Qty** Stamp **Work Center ID Description Run Hours** 0.00 120 QC8- Inspect parts - second check *120* QC 0.00 Memo Quality Control Chemical Conversion Coat per OS1005 4.1 0.00 130 Mai 3-417 *120* HandFinish 0.00 Memo Hand Finishing White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00 140 *1//0* Powdercoat

M125069

Powder Coating

Memo

START TIME: OVEN TEMPERATURE: FINISH TIME:

8xxm/13/24/24

											DQA:	Dat	te:	
NCR: Y	es /	No				WORK ORDER NON-C	O	NFORM	AANCE / UPD	ATE				
											QA Closed:	Da	te:	V - 2 - 4 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Work Orde	nr.					DISPOSITION				AGAINST DE	PARTMENT	PROCESS		
Work Orde						Rework	1		Skid-tube	Crosstube]	Water Jet		Engineering
Part N	io.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	\exists	Quality
						Use-as-is			noforming	Finishing	Rec/Stor	e/Packaging	コ	Other
NCR N	No.					Work Order Update			Large Fab	Composite]	Supplier		
							أ						-	
Root						ption of work order update	1	nitial	Actio		Sign &			
Cause		Date	Step	Qty		or Non-conformance	Ch	ief Eng	Descrip	ption	Date	Verificatio	<u> </u>	QC Inspector
Doc/Data														
Equip/Tooling														
Operator														
Material							i						ļ	
Setup	-					•								
Other Process	*													
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Supplier	\Box													
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Unapproved				<u> </u>				T 64 T5			<u> </u>			
					· · · · · · · · · · · · · · · · · · ·		AUL	T CATE	GURY					
Landir					' -	General	Γ	۱		<u> </u>]			Pressure/Forced
	$oldsymbol{oldsymbol{ ext{H}}}$	ending				Bend	_	Grain		-	Ovalized	4 - 1	\vdash	
	⊢ ⊣		t Concer	ntric to	o/s	BOM/Route		Hardwa		-	Over/Under		\vdash	Temperature/Cure Weld
	—	acks		٠		Broken/Damaged	-	1	on Incomplete		Part Incorre			Wrong Stock Pulled
	\vdash		crimped.			Burrs	\vdash	1	ions Incomplete/Ur	nciear	Part Lost/M	issing	Ш	MI OUR STOCK LANGO
	Cu	ıffs			.	Contamination	i	Mainte	nance		Part Moved			

Mislabeled

Out of Calibration

Out of Sequence

Outside Dimensions

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Heat Treat

Inspection Strip in Tube

Torque Waves in Extrusion

Countersink

Cut Too Short Drill Holes

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

i70

170

Quality Control

March-28-13 12:55:29 PM D3884-2 Setup Start Item ID: Accept *N900040100* **Revision ID:** Stop Saddle, Inboard RH Item Name: 3/21/13 Start Qty: 8.00 **Cust Item ID: Start Date:** Req'd Qty: 8.00 Required Date: 3/27/13 **Customer:** Reference: Run Date: _____ **Tooling:** Process Plan: Date: Approvals: Stop Date: SPC (Y/N): Date: OC: Reject Reject Tool ID Tool # Plan Insp. Sequence ID/ Operation Set Up/ Accept Qty Qty **Work Center ID Description Run Hours** Code Number Stamp QC3- Inspect Part Finish 0.00 150 *150* QC 0.00 Memo Quality Control 0.00 Identify as per dwg & Stock Location: 160 *160* Packaging 0.00 Memo Packaging

0.00

0.00

QC21- Final Inspection - Work Order Release

Memo

											DQA:	Date	:
NCR:	Yes	/ No				WORK ORDER NON-C	COI	NFORN	AANCE / UPDA	NTE	•		·
								,		eranien.	QA Closed:	Date	
Work Ord	or:					DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
WOIK OIG	-					Rework]		Skid-tube	Crosstube		Water Jet	Engineering
Part I	Vo.					Scrap	1	1	}	Small Fab	Pro	d. Eng. Coor.	Quality
	•					Use-as-is		ž .	oforming	Finishing	Rec/Stor	e/Packaging	Other
NCR I	۷o.				 _	Work Order Update]		Large Fab (Composite		Supplier	
Root		· ".			Descri	ption of work order update		Initial	Action	1	Sign &		
Cause		Date	Step	Qty	C	or Non-conformance	Ch	nief Eng	Descript	tion	Date	Verification	QC Inspector
Doc/Data	Ш												
Equip/Tooling	Ш		<u> </u>										
Operator			i				İ						
Material			į				.						
Setup-					,								
Other.													
Other. Process]										
Supplier													
Training													
Unapproved											·		
						F	AUI	LT CATE	GORY				
Landi	ng G	Gear			·	General		_			•	_	
		Bending				Bend	L	Grain			Ovalized		Pressure/Forced
		Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re	<u></u>	Over/Under	tolerance	Temperature/Cure
		Cracks				Broken/Damaged		Inspecti	on incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped.			Burrs		Instruct	ions Incomplete/Unc	clear	Part Lost/Mi	issing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	it			Countersink		Mislabe	led		Positioned V	Vrong _	
		Inspection	n Strip in	Tube		Cut Too Short		Misread	l		Power Loss/	Surge	Other
	П	Ripples in	Bend			Drill Holes		Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Picklist Print

March-28-13 12:55:29 PM

Work Order ID:

99167

Parent Item:

D3884-2

Parent Item Name:

Saddle, Inboard RH

Start Date: 3/21/13

Required Date: 3/27/13

Page 1

Start Qty: 8.00

Required Qty: 8.00

Comments:

IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status	
D6101-017		Manufactured	No		······································		Each	32.0000		8				
Saddle Billet											· · · · · · · · · · · · · · · · · · ·			

 Location
 Loc Oty
 Loc Code

 MAT040
 32

 94444
 20

 →9 94695
 12

8_ c/13/04/15

NCR: Y	es / No				WORK ORDER NON-C	CON	IFORN	MANCE / UP		QA Closed:	Date:	
Work Orde	· · · · · · · · · · · · · · · · · · ·				DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	ante e de la constitución de la
Part N					Rework Scrap]		Skid-tube Machining	Crosstube Small Fab	Pro	Water Jet d. Eng. Coor.	Engineering Quality
NCR N				· · · · · · · · · · · · · · · · · · ·	Use-as-is Work Order Update		Therm	noforming Large Fab	Finishing Composite	l	re/Packaging Supplier	Other
Root	<u> </u>	T		Descri	ption of work order update	l Ir	nitial	Ac	ction	Sign &	<u> </u>	
Cause	Date	Step	Qty		or Non-conformance	Chi	ief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data Equip/Tooling				· · · · · · · · · · · · · · · · · · ·								
Operator	\dashv				•	Ì						
Material	_											
Setup												
Other	_		9									
Process						ł						
Supplier												
Training				·								
Unapproved												
					F	AUL	T CATE	GORY				
Landin	g Gear			_	General				_	.i		1
	Bending				Bend		Grain			Ovalized	<u> </u>	Pressure/Forced
1	Centre N	ot Conce	ntric to	o/s	BOM/Route	\vdash	Hardwa			Over/Under	├	Temperature/Cure
	Cracks				Broken/Damaged	-	-	on Incomplete		Part Incorre		Weld
1	Crushed/	'Crimped]	Burrs	\vdash		ions Incomplete,	/Unclear	Part Lost/M	_	Wrong Stock Pulled
_	Cuffs			·	Contamination		Mainte			Part Moved		
<u> </u>	Heat Tre			-	Countersink	\vdash	Mislabe			Positioned \	· ·]5·
-	Inspection		Tube	· _	Cut Too Short		Misread	t		Power Loss/	'Surge	Other
	Ripples in		_	<u> </u>	Drill Holes	\vdash	Offset	- M				·
-		Vaves in I		n _	Drawing	-		Calibration				
· -	Turning 9			·	Finish	-		Sequence				
	Wave/Tv	vist in Tul	be	į į	Folio		Outside	Dimensions				

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

DART AEROSPACE LTD	Work Order:	99167
Description: Saddle, Inboard, RH	Part Number:	D3884-2
Inspection Dwg: D3884 Rev. B		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

				Red	corded Act	ual Dimens	ions		
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	Ву	Date
А	2.870	2.880		3.875	7.875	2.875	2.875		
В	1.433	1.443		1,428	1.436	1.435	1438		
С	0.638	0.658		.648	.644	.642	0642		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		.258	2258	.258	.258		
F	0.605	0.625		.615	.6145	-610	elleo		
G	1.120	1.130		1.125	1,125	1.125	1.125		
Н	2.245	2.255		2.250	2.250	2.250	2250		
	2.000	2.020		2,000	2.013	2,004	2.006		
J	0.140	0.175		.149	J142	0143	.143		
K	1.265	1.285		1.265	1.267	1.265	1.2665		
L	0.115	0.135		. 125	0124	0123	0121		
M	0.240	0.260		.250	.248	, 245	0246		
N	0.110	0.140		.140	.140	6140	.140		
0	0.240	0.260		255	. 249	250	248		
Р	2.826	2.886		3.8/06	2.864	2.864	2.864		
Q	0.178	0.198		. 188	·188	.188	.188		. · ·
R	0.140	0.165		155	140	.140	_ 139		
S	0.720	0.780		71.0	a 7/e0	.760	.760		
Т	1.220	1.280		1.21.0	1.260	1.260	1.260		
U	1.245	1.255		1.250	1.247	1.248	1.248		· · · · · · · · · · · · · · · · · · ·
V	5.990	6.010		6.000	6.000	6,000	1000		······································
W	2.495	2.505		2.500	2.499	2.498	2.498		
X	0.490	0.510		.500	,500	.498	.497		
Y	0.020	0.040		.03n	,030	,030	.030		
Ζ	0.313	0.318		.314	, 314	314	. 314		
AA	0.760	0.765		à 760	0760	.760	.760		
AB	0.215	0.220		0217 .	.217	e 217	. 217		
AC	0.316	0.321		.316	.316	.316	.316		
AD	1.745	1.755		1.750	1.747	1.748	1.748		i
ĄE	0.990	1.010		1:003	1.0025	1.003	1.002	-	
AF									***************************************
	Acc	ept/Rejec	t		***************************************				

 Measured by:
 Audited by Date:
 Approved

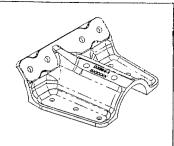
 Rev
 Date
 Change
 Revised by Approved
 KJ
DART AEROSPACE LTD	Work Order:	99167.
Description: Saddle, Inboard, RH	Part Number:	D3884-2
Inspection Dwg: D3884 Rev. B		Page 1 of 1

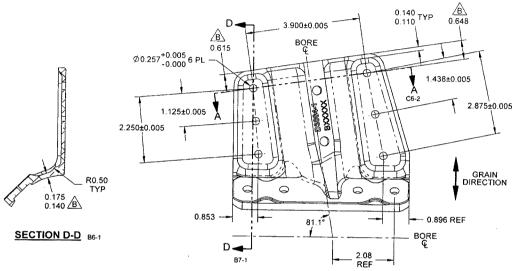
Inspect dimensions highlighted on inspection sheet drawing and record below:

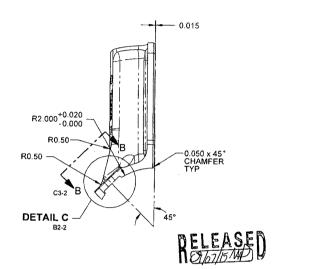
				Re	corded Act	ual Dimensi	ons		
Dim	Min	Max	Go/No Go Gauge	51	6 %	7 %	81	Ву	Date
Α	2.870	2.880		2.875	2.875	2.875	2.875		· · · · · · · · · · · · · · · · · · ·
В	1.433	1.443		1.436	1.438	1.438	1.435		***************************************
С	0.638	0.658		643	16425	.6435	06435		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		<i>₀258</i>	.258	,258	. 258		
F	0.605	0.625		0611	5 الهاء	. 60	.695		
_ G .	1.120	1.130		1.125	1.125	1.125	1.125		— ······
Η	2.245	2.255		2.250	2.250	2.250	2.250		
	2.000	2.020	•.	2.0085	2.010	2.012	2.008		, ,
J	0.140	0.175		143	144	.147	146		
K	1.265	1.285		1.2655	1.267	1.266	1.2658		
L	0.115	0.135		.120	1210	121	0120		
М	0.240	0.260		,244	244	,244	.245		
N	0.110	0.140		.140	.140	.140	.140		
0	0.240	0.260		, 249	, 248	.248	6247		•
Р	2.826	2.886		2.864	2.864	2.864	2.864		, -
Q	0.178	0.198		188	.188	.188	188	,	· @
R	0.140	0.165		140	143	0144	0145		<u>.</u> .
S	0.720	0.780		,760	760	760	760		
Т	1.220	1.280		1.260	1.240	1.240	1.260		
U	§ 1.245	1.255		1.248	1.248	1248	1.248		
V	5.990	6.010		6.000		6.000	6.000		
W	2.495	2.505		2.497	<u>6.000</u> 2.498	2.498	2.498		
X	0.490	0.510		, 499	.499	,499	,499		
Υ	0.020	0.040		1030	,030	.030	.030		······································
Z	0.313	0.318		.314	.314	. 314	.314		
AA	0.760	0.765		0760	.760	.760	.760		······································
AB	0.215	0.220		0217	,217	.217	,217		
AC	0.316	0.321		.316	.314	.316	.316		
AD	1.745	1.755		1.748	1748	1.748	1.748		
AE	0.990	1.010		1.003	1.003	1.003	1.003		·
AF			No. of		1000	,,,,,,,	1-60-3		
	Acc	ept/Rejec	et						
			01						

Me	asured by:	St	Audited by Do
	Date:	13-04-16	Date: 400 13-04.17
			89
Rev	Date	Change	Revised by Approved
Δ	09.10.22	New Issue	KJ # [() //
	 	<u> </u>	

SH RIT: **FNGI** UNCONT: SUBJECT : WITH WO. NO_99167 MLJ 13-03-28







D3884-1 SADDLE, INBOARD LH (SHOWN) D3884-2 SADDLE, INBOARD RH (OPPOSITE)

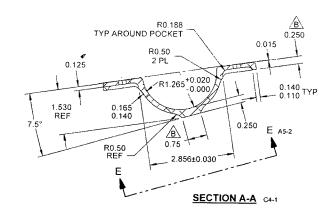
NOTES:
1) MATERIAL: 7075-T7351 ALUMINUM PER QQ-A-250/12 OR AMS-QQ-A-250/12 OR AMS-QQ-A-250/12 (REF DART SPEC. D6101-017)
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT "WHITE" (4.3.5.1) PER DART QSI 005 4.3
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX. DEPTH OF 0.010 WITH A MIN. TOOL RAD OF R0.010

	· · · · · · · · · · · · · · · · · · ·				
В	D6101-1 ADD R0 0.165, 2 ADD 0.2 D7-2	RF	09.06.30		
Α	NEW IS	NEW ISSUE			09.03.30
REV.		DESCRIPTION BY DATE			DATE
DESIGN		RF	DART AEROSPACE USA, INC.		
DRAWN		RF	PORT HADLOCK, WA		
CHECK	ED	PH 1	DRAWING NO.		REV. B
MFG. APPR.		22/1	D3884		SHEET 1 OF 2
APPROVED		Model	TITLE		SCALE
DE APPR.			INBOARD SADDLE		NTS
DATE 09.06.30			COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS		

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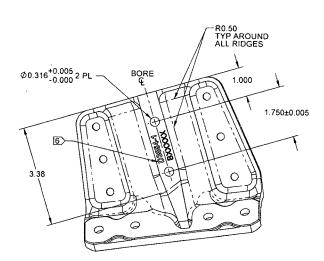


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В

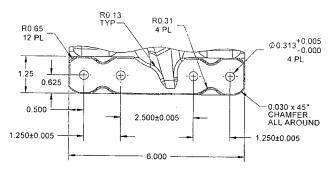
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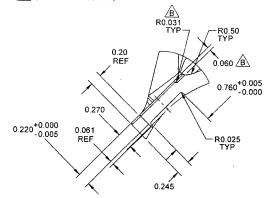
VIEW E-E C6-2

5





3



DETAIL C B3-1

2



			1	
DESIGN	RF	DART AEROSPACE USA, INC.		
DRAWN	RF	PORT HADLOCK, WA		
CHECKED	PH 1	DRAWING NO.	REV. B	
MFG. APPR.	11.	D3884	SHEET 2 OF 2	
APPROVED	THE	TITLE	SCALE	
DE APPR.	4	INBOARD SADDLE	NTS	
DATE 09.0	6.30	COPYRIGHT © 2009 BY DART AEROSPACE USA, INC. THIS DOCUMENT S PRIVATE AND COMPRIGHTURY AND STREETED ON THE CAPTURES CONCINION THAT IT IS NOT THE SUST OFFI ANY PURPOSE OR CORPET OF COMPARATION OF ANY OTHER PRESON WITHOUT		